



Ms. Melanie Morash, Remedial Project Manager  
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Subject:

Response to United States Environmental Protection Agency's comments dated January 17, 2014 for the Teledyne Semiconductor/Spectra-Physics Superfund Sites *Work Plan Addendum for Vapor Intrusion Evaluation of Residential Buildings in the Off-Property Study Area*, 1300 Terra Bella Avenue and 1250 Middlefield Road, Mountain View, California dated January 8, 2014

Environment

Dear Ms. Morash:

Date:  
 January 27, 2014

ARCADIS U.S., Inc. (ARCADIS) is submitting this response to comments from the United States Environmental Protection Agency's (USEPA's) memorandum dated January 17, 2014 for the Teledyne Semiconductor/Spectra-Physics Superfund Sites *Work Plan Addendum for Vapor Intrusion Evaluation of Residential Buildings in the Off-Property Study Area, 1300 Terra Bella Avenue and 1250 Middlefield Road, Mountain View, California (Residential Work Plan Addendum; Attachment 1)*. The January 8, 2014 addendum was submitted by ARCADIS on behalf of TDY Industries, LLC, for the former Teledyne Semiconductor Site and Thermo Fisher Scientific, Inc, for the former Spectra-Physics Laser Site. TDY Industries, LLC and Thermo Fisher Scientific, Inc. are collectively referred to as "the Companies." This letter provides responses to USEPA's comments. Revisions to the indoor air sampling plan will be incorporated as stated herein; however, these revisions will not be formally incorporated into a revised Residential Work Plan Addendum.

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 Our ref:  
 EM001727.0070.0004

The comments are in bold with responses following.

**Comment #1: Previous Sampling Results**

**This section should also discuss the previous crawl space sampling results for all residences where crawl space samples were collected.**

**Response to Comment #1:**

Agreed. Table 1 in the Residential Work Plan Addendum included results from all of the crawl space samples collected to date. The bullets describing previous sampling results have been expanded on below (changes shown in *italics*). A

similar discussion of crawl space sampling results will be provided following collection and evaluation of future indoor air samples.

- In two of the residential buildings located in the Spring Street Area (SSA), trichloroethene (TCE) was not detected above the laboratory reporting limit in samples collected from the living area or crawl space.
- In six residential buildings located in the SSA and one in the North Bayshore Area (NBA), TCE was detected above the laboratory reporting limit but below the current Regional Screening Level (RSL) of 0.43 microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ; Tier 2) in both the living area and crawl space samples.
- In two of the residential buildings located in the SSA, TCE was detected at or above the current November 2013 RSL of  $0.43 \mu\text{g}/\text{m}^3$  (Tier 2) and below the previous RSL of  $1.2 \mu\text{g}/\text{m}^3$  in living area samples. TCE was detected at  $1.2 \mu\text{g}/\text{m}^3$  in the crawl space of one of the two buildings and was detected above the current November 2013 RSL but below the previous RSL in the other building.
- In four of the residential buildings located in the SSA, TCE was detected at or above the previous RSL of  $1.2 \mu\text{g}/\text{m}^3$  (Tier 2) and below the USEPA short-term response action level of  $2 \mu\text{g}/\text{m}^3$  (Tier 3) in samples collected from the living area. In one of the four buildings, TCE was detected above the previous RSL of  $1.2 \mu\text{g}/\text{m}^3$ . The remaining three crawl space samples were detected above the current RSL but below the previous RSL.

#### **Comment #2: Number of Buildings Slated for Sampling**

**Page 4 of the Addendum references 31 buildings, however, my count is 32 with 31 in the Spring Street Study Area and 1 in the North Bayshore Study Area. An updated map (see comment below regarding TCE groundwater contours and residential study area) would facilitate an accurate building count.**

#### **Response to Comment #2:**

Agreed. The text incorrectly stated that there were 31 residential buildings within the vapor intrusion study area although Figure 2 correctly depicted the 32 residential buildings, including 31 residential buildings in the Spring Street Area and one residential building in the North Bayshore Area. The 32 residential

buildings overlie the November 2009 interpretation of the 50 micrograms per liter ( $\mu\text{g/L}$ ) contour, as presented in the 2010 Work Plan (ARCADIS 2010). Although the 50  $\mu\text{g/L}$  TCE contour has significantly decreased, sampling is planned for the 32 residential buildings in the previously defined vapor intrusion study area (subject to obtaining access), regardless of whether the building was previously sampled (see Attachment 2).

**Comment #3: TCE Groundwater Contours and Residential Study Area**

**As we have discussed, the implementation of the successful enhanced reductive dechlorination (ERD) remedy has substantially decreased groundwater-trichloroethene (TCE) levels at former Teledyne property. The Addendum would benefit from a figure that shows the residential study area (currently Figure 2) set against the most recent post-ERD shallow-zone groundwater-TCE contours (currently Figure 3).**

**Response to Comment #3:**

Agreed. Please see attached Figure 2-REV (Attachment 2). The figure presents November 2009 contours as presented in the 2010 Work Plan (ARCADIS 2010) and November 2013 50  $\mu\text{g/L}$  TCE contours, and highlights the 32 residential buildings included in the residential building vapor intrusion study area.

**Comment #4: Next Phase of Sampling**

**EPA appreciates your developing the Addendum, addressing those residential buildings in the original study area. EPA would like to confirm the statement in the cover letter that accompanied this Addendum, that a future addendum and subsequent investigation phases will address those remaining buildings overlying the 5 micrograms per liter ( $\mu\text{g/L}$ ) TCE shallow-groundwater contour line. A map showing the extent of the 5  $\mu\text{g/L}$  TCE groundwater contour line and additional buildings for future evaluation would be helpful for inclusion here.**

**Response to Comment #4:**

As stated previously, remaining residences overlying the 5  $\mu\text{g/L}$  contour will be evaluated following completion of sampling associated with the Residential Work Plan Addendum. The work plan addendum associated with that scope of work will be submitted and will include a figure presenting residences overlying the most recent 5  $\mu\text{g/L}$  contour.

**Comment #5: Figure 4 – Decision Flow Chart – Mitigation System Follow-up**

For buildings where a vapor intrusion mitigation system is installed and successful at bringing indoor air contaminant concentrations to below screening levels and where follow-up sampling confirms that the vapor intrusion pathway has been broken, a long-term monitoring plan (for example, to verify that the mitigation system continues to function as originally designed and installed) is appropriate. Changes in environmental or building conditions or use might re-elevate the vapor intrusion potential of the building and prompt a re-evaluation.

Vapor mitigation system monitoring and verification procedures should be included in a comprehensive, building-specific long-term Operations, Monitoring and Maintenance (OMM) Plan, that would be prepared for the building at issue, to verify the continued efficacy of the chosen mitigation system as a vapor intrusion remedy for the property.

The OMM Plan, or its equivalent, should be submitted to the Regional Water Board and USEPA (Agencies) for review and approval, and include at a minimum, a description of staff fully trained to implement the plan, specific inspection and maintenance protocols, confirmation sampling procedures, procedures for following up on corrective action items, and regular training and recordkeeping requirements.

Where the vapor intrusion remedy is thus achieved through operation of an active ventilation system or through conduit sealing, agreement of the property owner and tenant must be contained in a recorded agreement, and an Institutional Controls (ICs) implementation plan should be developed.

ICs generally consist of:

- deed restrictions, as appropriate
- permitting and building requirements to maintain appropriate engineering controls in current building use and in future construction
- recorded agreements to ensure installation and operation of necessary engineering controls
- requirements for information to be provided to future owners and tenants
- requirements for information of building construction or ownership changes be provided to the Agencies and Responsible Parties (RPs)

- **tracking service to provide information to Agencies and RPs of occupancy and building changes**

Response to Comment #5:

An interim mitigation and monitoring plan, consisting of periodic checks to confirm fan operations, will be implemented for residences where mitigation is installed. Based on the significant and rapid declining concentrations of TCE in groundwater, mitigation, if required, will only be installed as an interim measure. Therefore, building-specific long-term OMM plans and institutional controls are not required.

**Comment #6: Figure 4 – Decision Flow Chart**

**Multiple rounds of indoor air sampling are generally recommended in order to characterize exposure levels in indoor air, because of the temporal variability of indoor air concentrations, which reflects time-dependent changes in soil gas entry rates, exchange rates, and intra-building mixing, among other factors. Also, multiple sampling events generally are considered necessary to account for seasonal variations in climate and changes in the habits of building occupants. In the Bay Area, indoor air sampling during the heating season, when stack effects are generally more significant, may yield higher indoor air concentrations than at other periods.**

**The decision flow chart should be revised to include another decision line following a sampling round to evaluate whether sufficient lines of evidence have been collected to support a determination of whether or not the vapor intrusion pathway is complete and a remedy is appropriate. Specifically, for those residences that were previously sampled, a second round of sampling during colder weather (during the time of year when indoor/outdoor temperature differentials may be expected to be highest) is expected to provide data that will enable a final determination as to whether the vapor intrusion pathway is complete. For those residences where the winter sampling round is the first round of sampling, an evaluation should be made following the sampling whether, in particular for those buildings where sampling results do not exceed screening levels, collection of additional lines of evidence (for example, one subsequent sampling round) are appropriate prior to making a “no further action” determination with respect to the vapor intrusion pathway.**

Response to Comment #6:

The next round of sampling as described in the Residential Work Plan Addendum is scheduled to be conducted during the heating season when indoor air results are expected to be the highest. Given that groundwater concentrations are decreasing significantly and rapidly, no additional sampling is currently planned for residential buildings with indoor air results below criteria. Nevertheless, the Companies will make a recommendation regarding path forward following completion of the heating season sample event.

**Comment #7: Analysis Methodology**

**The proposed Radiello RAD 130 sampler and Method TO-17 analysis is acceptable and EPA Region 9 is supportive of this second sampling round and diffusive sampling technology to assess the vapor intrusion pathway at the Site. We would like to add that, with respect to vinyl chloride, EPA Region 9 has not validated the RAD 130 sampler for 14-day collection of vinyl chloride and due to its physical properties, vinyl chloride is likely to back diffuse. Therefore, any vinyl chloride results will likely be significantly biased low.**

**While we do not suggest any change to this proposed sampling methodology and analysis protocol, EPA Region 9 recommends proceeding with the RAD 130 sampler but this caveat: if significant concentrations of vinyl chloride or cis-1,2-dichloroethene (cis-1,2-DCE) are detected, follow-up canister sampling using Method TO-15 for analysis may be required. (Note that the cis-1,2-DCE analysis may be helpful for assessing whether volatile organic compounds detected in indoor air are a result of indoor sources or due to vapor intrusion-related bioremediation breakdown products.)**

Response to Comment #7:

Agreed. ARCADIS will move forward with the suggested response action if vinyl chloride or cis-1,2-DCE are detected at significant concentrations.

If you have questions regarding our responses to the comments on this document, please contact Erica Kalve at 415.491.4530, ext. 22.

Sincerely,

ARCADIS U.S., Inc.



Erica Kalve  
Senior Geologist, P.G

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Leigh Neary  
Environmental Engineer

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Attachments:

Attachment 1 – January 8, 2014 Work Plan Addendum  
Attachment 2 – Revised Figure 2 – Site Plan

References:

ARCADIS, 2010. Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area and at 1250 Middlefield Road, Teledyne Semiconductor and Spectra-Physics Laser, Inc., Sites, Mountain View, California. September 24.

**Attachment 1**

January 8, 2014

Work Plan

Addendum





Mr. Roger Papler  
Engineering Geologist  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Subject:

Work Plan Addendum for Vapor Intrusion Evaluation of Residential Buildings in the Off-Property Study Area, 1300 Terra Bella Avenue and 1250 Middlefield Road, Mountain View, California

Dear Mr. Papler:

This letter serves as a Work Plan Addendum to the September 24, 2010 "Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area and at 1250 West Middlefield Road for the former Teledyne Semiconductor and former Spectra-Physics Lasers Sites" ("the 2010 Work Plan"). The sites are located respectively at 1250 West Middlefield Road and 1300 Terra Bella Avenue, Mountain View, California ("the Study Area"; Figure 1). ARCADIS U.S., Inc. (ARCADIS) prepared the 2010 Work Plan and this Work Plan Addendum on behalf of TDY Industries, LLC, for the former Teledyne Semiconductor Site and Thermo Fisher Scientific, Inc., for the former Spectra-Physics Laser Site. TDY Industries, LLC and Thermo Fisher Scientific, Inc. are collectively referred to as "the Companies." The scope of work contained in this Work Plan Addendum only applies to the 31 Residential Buildings in the Spring Street Area and North Bayshore Area as outlined on Figure 2.

This Work Plan Addendum was prepared in accordance with various communications with representatives of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) and the United States Environmental Protection Agency (USEPA) regarding additional sampling to evaluate potential vapor intrusion in residential buildings during the colder weather months (November through February, with January generally being the coldest month in the Bay Area). Those communications included (1) the October 29, 2013 meeting between representatives of the RWQCB, the USEPA, the Companies, and ARCADIS; and (2) the USEPA letter titled "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites," dated December 3, 2013 ("EPA Region 9 Guidelines"; USEPA 2013b). USEPA requested cold weather sampling referencing

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ENVIRONMENT

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January 8, 2014

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EM001727.0070

Imagine the result

the “stack effect,” where studies have observed higher indoor air concentrations when outdoor air temperatures are significantly lower than indoor air temperatures (USEPA 2013b).

### **Updated Roles and Responsibilities**

The 2010 Work Plan outlined the project team’s roles and responsibilities, including RWQCB and USEPA Region 9 Superfund Division oversight. The only change to the personnel listed in the 2010 Work Plan is the replacement of the USEPA project manager to Ms. Melanie Morash. Ms. Morash will be the USEPA’s technical lead for implementation of the work detailed in this Work Plan Addendum.

### **Data Evaluation Updates**

Data evaluation and reporting methods will be conducted as described in the 2010 Work Plan with incorporation of the following revisions (ARCADIS 2010). Sample results will be assessed using an updated tiered approach, as defined below:

- Tier 1: Indoor air sample results will be compared to outdoor air sample results to evaluate whether indoor air quality may be affected by sources unassociated with vapor intrusion.
- Tier 2: Indoor air sample results will be compared to long-term screening criteria and site-specific exposure scenarios (regional screening levels [RSLs]; USEPA 2013a).
- Tier 3: Indoor air sample results will be compared to short-term screening criteria (Agency for Toxic Substances and Disease Registry [ATSDR] Minimal Risk Levels [MRLs] and EPA Region 9 Guidelines; ATSDR 2013; USEPA 2013b).

### **Previous Sampling Results**

Since the submittal of the 2010 Work Plan, a total of 15 residential buildings have been sampled (one of which was sampled solely by USEPA). Fourteen residential buildings are located in the Spring Street Area (SSA) and one residential building is located in the North Bayshore Area (NBA). Sampling results are attached in Table 1 and described in more detail below. Details include the results compared to the laboratory reporting limit, previous USEPA screening levels (those included in the

2010 Work Plan; ARCADIS 2010), the current USEPA RSLs (USEPA 2013a), and the USEPA short-term response action level (USEPA 2013b).

- In two of the residential buildings located in the SSA, trichloroethene (TCE) was not detected above the laboratory reporting limit in samples collected from the living area or crawl space.
- In six residential buildings located in the SSA and one in the NBA, TCE was detected above the laboratory reporting limit but below the current RSL of 0.43 microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ; Tier 2) in the living area samples.
- In two of the residential buildings located in the SSA, TCE was detected at or above the current November 2013 RSL of 0.43  $\mu\text{g}/\text{m}^3$  (Tier 2) and below the previous RSL of 1.2  $\mu\text{g}/\text{m}^3$  in living area samples.
- In four of the residential buildings located in the SSA, TCE was detected at or above the previous RSL of 1.2  $\mu\text{g}/\text{m}^3$  (Tier 2) and below the USEPA short-term response action level of 2  $\mu\text{g}/\text{m}^3$  (Tier 3) in samples collected from the living area. Mitigation was offered to these residences as described in the 2012 memo to the USEPA and RWQCB titled "Conceptual Design for Installing a Vapor Intrusion Mitigation System at Spring Street Residential Building RB-13, Mountain View, California" (ARCADIS 2012).
- TCE was not detected above the USEPA short-term response action level of 2  $\mu\text{g}/\text{m}^3$  (Tier 3) at the residential buildings sampled in this investigation.

### **Remediation Status**

In 2005, an enhanced reductive dechlorination (ERD) pilot study was conducted and demonstrated the effectiveness of in situ bioremediation to treat concentrations of volatile organic compounds (VOCs) in saturated soils and shallow and intermediate zone groundwater. The results of the pilot study were used to develop a full-scale ERD treatability study for which the initial injections were performed during 2011 and 2012. The treatability study injections induced strongly reducing conditions and resulted in a very effective reduction of VOC concentrations in saturated soils and groundwater (ARCADIS 2013).

Most of the residential indoor air samples collected to date were collected prior to implementation of the full-scale ERD treatability study. In addition to the reduction in

groundwater concentrations observed on site, groundwater concentrations underlying residential buildings in the SSA have also decreased. Figure 3 illustrates the TCE distribution in shallow groundwater based on pre- and post-ERD groundwater monitoring results. As shown, there have been significant reductions in TCE in groundwater due to the ERD treatment. These significant reductions in TCE concentrations in groundwater are expected to result in corresponding reductions in VOC concentrations in soil vapor, thus resulting in reduced vapor intrusion potential over time.

### **Purpose of Additional Residential Indoor Air Sampling**

The two primary purposes of the additional residential sampling are to measure indoor air concentrations in residential-type construction buildings during the winter months and to evaluate whether post ERD-injection conditions (i.e., reduced VOCs in groundwater) have resulted in corresponding reduced potential for vapor intrusion to affect indoor air quality (particularly in the SSA). Sampling is planned for the 31 residential buildings in the SSA and NBA, regardless of whether the building was sampled previously. However, sampling will be dependent on completion of access agreements.

### **Sampling Plan Updates**

Field analytical methods, sample documentation, and quality assurance methods will be conducted as described in the 2010 Work Plan with incorporation of the following revisions (ARCADIS 2010).

#### *Pre-Sampling Activities*

Prior to conducting the additional sampling in residential buildings, USEPA and ARCADIS will jointly lead a public outreach session for the residents in the area. In residences not previously sampled and upon completion of corresponding access agreements, pre-sampling inspections will be conducted in residential buildings to evaluate appropriate living area and crawl space sample locations.

Additionally, prior to sampling, a building survey form will be completed for the residential buildings regardless of prior survey completion. The building survey form obtained for use in this study was provided as Appendices L and M of the Department of Toxic Substances Control (DTSC) Vapor Intrusion Guidance Document (DTSC 2011) and is included as Attachment A of this Work Plan

Addendum. The purpose of the survey is to identify factors or consumer products in the residences that may influence indoor air quality. Some significant VOC effects on indoor air quality may come from the use of consumer products, building materials, and personal activities. Residents will be asked not to bring home any dry cleaned items during the duration of sampling and will also be asked to remove any consumer products that are recognizable sources of constituents of concern (COCs) from the house.

#### *Sampling Methods*

Air samples for VOC analysis will be collected using long-term (14 days) passive sorbent samplers. A Radiello RAD 130 sampler will be used to sample for site COCs except for Freon 113. During past residential indoor air sampling efforts, Freon 113 was detected at a maximum concentration approximately 25,000 times less than the RSL. Thus, Freon 113 does not significantly contribute to human health risk at the Site and additional evaluation of Freon 113 is not needed.

The sorbent sampler selection process incorporates the following:

- Site COCs: TCE, tetrachloroethene (PCE), and chloroform are the “target compounds” based on a review of historical indoor air sample results. Thus, a sampler with a sorbent specific to those compounds was selected. The RAD 130 sampler will also sample for the other potential COCs (with the exception of Freon 113).
- Sorbent media uptake rate: The uptake rate (the chemical-specific rate at which a volatile chemical is taken into the sampler) for each COC is used when calculating the time-weighted air concentrations. The RAD 130 sampler has both calibrated and independently validated uptake rates for the three target compounds. Calibrated and independently validated uptake rates are not available for the other COCs, so the other COCs (with the exception of Freon 113) will be evaluated using estimated uptake rates; uptake rates will be estimated by the laboratory using the calibrated uptake rates from similar compounds. After analysis using the uptake rate information, the laboratory will perform the computations to report COCs as concentrations in micrograms per cubic meter.
- Target reporting limits and sample duration: each COC sampled using the RAD 130 will have a reporting limit less than its minimum screening level based on a 14-day sample duration, with the exception of vinyl chloride. The reporting limit for a

14-day sample of vinyl chloride is  $0.19 \mu\text{g}/\text{m}^3$ , which slightly exceeds the RSL of  $0.16 \mu\text{g}/\text{m}^3$ . Based on previous indoor air sampling results collected in the area, vinyl chloride concentrations have not been detected at levels of concern and, therefore, this limitation of the RAD 130 is acceptable for the purpose of this indoor air study.

Samples will be transferred under strict chain-of-custody procedures to a California-certified laboratory and analyzed for VOCs by modified USEPA Method TO-17.

#### *Response Actions*

Indoor air sampling results will be assessed using a tiered approach, as described previously. Figure 4 illustrates the data evaluation and response action. As shown, response actions will be implemented, as follows:

- If indoor air concentrations sampled during the winter months do not exceed Tier 1 or Tier 2 criteria, no further action will be necessary.
- If indoor air concentrations exceed Tier 2 criteria and are suspected to be from secondary sources (such as dry cleaned items, household cleaners, or other consumer products), additional sampling may be conducted with a photoionization detector (PID) and/or a portable gas chromatograph/mass spectrometer ("screening tools"). These screening tools are intended to be used for instantaneous estimates (grab samples) of indoor air concentrations, and information collected during the screening assessment should not be directly compared to exposure screening criteria. If secondary sources are identified, they will be removed from the residence and an additional round of passive indoor air sampling will be conducted using the Radiello RAD 130 sampler as described above.
- If indoor air concentrations exceed Tier 2 criteria and are suspected to be a result of vapor intrusion or if indoor air concentrations exceed Tier 3 criteria, then a vapor intrusion mitigation system will be installed, as described in the 2012 memo to the USEPA and RWQCB titled "Conceptual Design for Installing a Vapor Intrusion Mitigation System at Spring Street Residential Building RB-13, Mountain View, California" (ARCADIS 2012). After installation of the mitigation system, an additional round of passive indoor air sampling will be conducted using the Radiello RAD 130 sampler as described above.

Note that, if indoor air concentrations are detected above Tier 3, the vapor intrusion mitigation system will be installed on an expedited schedule.

If you have any questions or comments, please contact Erica Kalve at 415.491.4530 ext. 22.

Sincerely,

ARCADIS U.S., Inc.



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Senior Geologist



Leigh Neary  
Environmental Engineer

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Mr. Don Bradshaw, PG, ARCADIS  
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Ms. Amy Goldberg Day, ARCADIS  
Mr. Mark Rollins, Thermo Fisher Scientific  
Mr. Jim Diel, Union Pacific Railroad

Attachments:

Table 1	Data Summary for Residential Indoor Air Sample Results
Figure 1	Site Vicinity Map and Property Locations
Figure 2	Site Map Showing Residential Buildings Included in the Work Plan Addendum
Figure 3	Pre- and Post-ERD TCE Distribution in Shallow Groundwater
Figure 4	Decision Flow Chart – Residential Buildings in the Off-Property Study Area
Attachment A	DTSC Building Survey Form

References:

ARCADIS. 2010. Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area and at 1250 West Middlefield Road, Teledyne Semiconductor and Spectra-Physics Laser, Inc., Sites, Mountain View, CA. September 24.

ARCADIS. 2012. Memo from ARCADIS to USEPA and RWQCB. "Conceptual Design for Installing a Vapor Intrusion Mitigation System at Spring Street Residential Building RB-13, Mountain View, California." July 16.

ARCADIS. 2013. Focused Feasibility Study, Former Spectra-Physics Lasers, Inc., and Former Teledyne Semiconductor Facilities, Mountain View, California. April 4.

ATSDR. 2013. Minimum Risk Levels List. Available at:  
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DTSC. 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). Available at:  
[http://www.dtsc.ca.gov/AssessingRisk/upload/Final\\_VIG\\_Oct\\_2011.pdf](http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf). October.

USEPA. 2013a. Regional Screening Levels for Chemical Contaminants. Available at:  
<http://www.epa.gov/region9/superfund/prg/>. Revised November 2013.

USEPA. 2013b. Letter from USEPA to Stephen Hill (RWQCB). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites." December 3.



**Tables**

**Table 1**  
**Data Summary for Residential Indoor Air Sample Results**  
**Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities**  
**Mountain View, California**

*(concentrations reported in micrograms per cubic meter)*

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
<b>Tier 1 - Comparison to Background/Outdoor Ambient Air</b>												
SSRB3-OA-5**	10/27/2010	OA	<0.38	<0.28	<0.089	<0.47	<1.4	<0.28	<0.42	<0.38	<0.34	0.62
SSRB11-OA-22	12/14/2010	OA	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<b>0.22</b>	<b>0.77</b>
SSRB11-OA-22-EPA	12/14/2010	OA	<0.4 J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 C1	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	<0.37 J,Q2	<b>0.3 C1,J,Q2</b>
SSRB11-OA-23	12/14/2010	OA	<0.2	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	<0.2	<0.18	<b>0.54</b>
SSRB8-OA-30	12/15/2010	OA	<0.19	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<0.17	<b>0.53</b>
SSRB9-OA-36	12/15/2010	OA	<b>0.92</b>	<0.14	<0.047	<0.25	3	<0.15	<0.22	<0.2	<0.18	<b>0.59</b>
SSRB9-OA-42	12/16/2010	OA	<b>1.2</b>	<0.14	<0.044	<0.23	<0.68	<0.14	<0.2	<0.19	<b>0.26</b>	<b>0.63</b>
SSRB-13-50	09/01/2011	OA	<0.18	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	<b>0.18</b>	<b>0.50</b>
NBRB-15-OA-56	7/18/2013	OA	<0.18	<0.13	<0.043	<0.23	<0.67	<0.14	<0.20	<0.18	0.26	0.58
<b>Tier 2 - Comparison to Long-Term Health Risk-Based Screening Criteria</b>												
Residential Screening Level (May 2010) <sup>1</sup>			1.2	63	0.16	0.41	63	1.5	210	5,200	0.11	31,000
Residential Screening Level (November 2013) <sup>2</sup>			0.43	63*	0.16	9.40	63	1.5	210	5,200	0.11	31,000
<b>Tier 3 - Comparison to Short-Term Health Risk-Based Screening Criteria</b>												
Acute Screening Level (February 2012) <sup>3</sup>			10,748	793*	1,278	1,357	793	NA	NA	10,914	488	NA
Acute Screening Level (July 2013) <sup>4</sup>			NA	793*	1,278	1,357	793	NA	NA	10,914	488	NA
Short-Term Screening Levels (February 2012) <sup>3</sup>			537	793*	77	NA	793	NA	NA	3,820	244	NA
Short-Term Screening Levels (July 2013) <sup>4</sup>			NA	793*	77	NA	793	NA	NA	3,820	244	NA
Interim Indoor Short-Term Response Action Levels <sup>5</sup>			2	NA	NA	0.4	NA	NA	NA	NA	NA	NA
<b>Indoor Air Sample Results</b>												
SSRB1-IA-1	10/27/2010	LR	<0.22	<0.16	<0.053	<b>0.63</b>	<0.82	<0.17	<0.25	<0.22	<b>0.58</b>	<b>0.58</b>
SSRB1-IA-2	10/27/2010	CS	<0.17	<0.12	<0.04	<0.21	<0.63	<0.13	<0.19	<0.17	<b>0.3</b>	<b>0.62</b>
SSRB2-IA-3	10/27/2010	LR***	<b>0.23</b>	<0.1	<0.033	<0.18	<0.52	<0.1	<0.16	<0.14	<b>1.5</b>	<b>0.99</b>
SSRB2-IA-4	10/27/2010	CS	<b>0.22</b>	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	<b>0.28</b>	<b>0.57</b>
SSRB3-IA-6**	10/27/2010	LR	<0.41	<0.3	<0.098	<0.52	<1.5	<0.31	<b>2</b>	<0.42	<b>2.5</b>	<b>0.7</b>
SSRB3-IA-6-EPA	10/27/2010	LR***	<b>0.22 C1 J</b>	<0.2	<0.13	<b>0.23 C1 J</b>	<0.2	<0.2	<b>3.5</b>	<0.27	<b>3.1</b>	<b>0.61</b>
SSRB3-IA-7	10/27/2010	CS***	<b>0.36</b>	<0.11	<0.034	<0.18	<0.53	<0.11	<0.16	<0.15	<b>0.32</b>	<b>1.2</b>
SSRB3-IA-7-EPACS	10/27/2010	CS***	<b>0.4</b>	<0.2	<0.13	<b>0.25 C1 J</b>	<0.2	<0.2	<0.3	<0.27	<b>0.37</b>	<b>0.69</b>
SSRB4-IA-8	10/27/2010	LR	<0.16	<0.12	<0.039	<0.21	<0.6	<0.12	<0.18	<0.16	<b>1.4</b>	<b>0.55</b>
SSRB4-IA-8-EPA	10/27/2010	LR***	<0.27	<0.2	<0.13	<0.34	<0.2	<0.2	<0.3	<0.27	<b>2.4</b>	<b>0.56</b>
SSRB4-IA-9	10/27/2010	CS	<0.2	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	<0.2	<b>0.51</b>	<b>1</b>
SSRB4-IA-9-EPACS	10/27/2010	CS***	<0.27	<0.2	<0.13	<0.34	<0.2	<0.2	<0.3	<0.27	<b>0.3</b>	<b>0.57</b>
SSRB5-IA-10	10/27/2010	LR	<b>0.16</b>	<0.12	<0.037	<0.2	<0.58	<0.12	<0.18	<0.16	<b>1.1</b>	<b>0.99</b>
SSRB5-IA-11	10/27/2010	CS	<b>0.2</b>	<0.12	<0.04	<0.21	<0.61	<0.12	<0.19	<0.17	<b>0.33</b>	<b>0.65</b>

**Table 1**  
**Data Summary for Residential Indoor Air Sample Results**  
**Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities**  
**Mountain View, California**

*(concentrations reported in micrograms per cubic meter)*

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SSRB6-IA-12	10/27/2010	LR	1.2	<0.14	<0.045	0.24	<0.69	<0.14	<0.21	0.19	0.54	0.71
SSRB6-IA-34	12/15/2010	LR	1.8	<0.15	<0.048	0.28	<0.74	<0.15	<0.22	0.2	0.5	0.54
SSRB6-IA-13	10/27/2010	CS***	0.81	<0.1	<0.034	<0.18	<0.52	<0.11	<0.16	<0.14	0.34	0.65
SSRB6-IA-35	12/15/2010	CS	0.75	<0.14	<0.044	<0.23	<0.68	<0.14	<0.2	<0.19	0.18	0.55
SSRB7-IA-14	10/27/2010	LR	0.98	<0.11	<0.037	0.46	<0.57	<0.12	<0.17	0.74	1.2	0.7
SSRB7-IA-46	12/16/2010	LR	1.2	<0.14	<0.045	0.52	<0.69	<0.14	<0.21	4.3	0.9	0.56
SSRB7-IA-15	10/27/2010	CS	1.2	<0.11	<0.036	<0.19	<0.55	<0.11	<0.17	<0.15	0.32	0.73
SSRB7-IA-47	12/16/2010	CS	0.88	<0.12	<0.04	<0.21	<0.63	<0.13	<0.19	<0.17	0.27	0.54
SSRB8-IA-16	10/27/2010	LR	1.8	<0.13	<0.043	<0.23	<0.67	<0.14	<0.2	1.9	3.7	0.79
SSRB8-IA-16-EPA	10/27/2010	LR***	1.8	<0.2	<0.13	0.32 C1 J	<0.2	<0.2	<0.3	1.9	3.2 RE2	0.7
SSRB8-IA-31	12/15/2010	LR	1.3	<0.14	<0.047	3.9	<0.72	<0.15	<0.22	2.8	2.8	0.64
SSRB8-IA-31-EPA	12/15/2010	LR***	0.78 J,Q2	<0.25 J,Q2	<0.16 J,Q2	4.2 J,Q2	0.13 J,C1	<0.25 J,Q2	<0.38 J,Q2	2.8 J,Q2	2.3 J,Q2	0.33 Q2,C1,J
SSRB8-IA-17	10/27/2010	CS***	0.8	<0.1	<0.033	0.19	<0.52	<0.1	<0.16	<0.14	0.42	0.68
SSRB8-IA-17-EPACS	10/27/2010	CS***	0.95	0.14 C1 J	<0.13	0.34	<0.2	<0.2	<0.3	<0.27	0.44	0.59
SSRB8-IA-32	12/15/2010	CS	0.59	<0.13	<0.041	<0.22	<0.64	<0.13	<0.19	<0.18	0.17	0.74
SSRB8-IA-32-CSEPA	12/15/2010	CS***	<0.27 J,Q2	<0.2 J,Q2	<0.13 J,Q2	<0.34 J,Q2	<0.2 U	<0.2 J,Q2	<0.3 J,Q2	<0.27 J,Q2	<0.24 J,Q2	0.29 C1,J,Q2
SSRB8-IA-33	12/15/2010	BR	1.2	<0.14	<0.046	4.8	<0.71	<0.14	<0.22	2.2	8.4	0.6
SSRB9-IA-18	10/27/2010	LR	0.56	<0.11	<0.035	0.19	<0.54	<0.11	<0.16	<0.15	1.7	0.71
SSRB9-IA-37	12/16/2010	LR	0.84	<0.16	<0.053	0.32	<0.82	<0.17	<0.25	<0.22	1.3	0.58
SSRB9-IA-43	12/16/2010	LR	0.82	<0.14	<0.047	0.26	<0.72	<0.15	<0.22	<0.2	1.2	0.6
SSRB9-IA-19	10/27/2010	CS***	0.95	<0.1	<0.033	<0.18	<0.52	<0.1	<0.16	<0.14	0.28	0.97
SSRB9-IA-38	12/15/2010	CS	0.89	<0.14	<0.046	<0.24	<0.71	<0.14	<0.22	<0.2	<0.17	0.6
SSRB9-IA-44	12/16/2010	CS	1.3	<0.13	<0.042	<0.22	<0.65	<0.13	<0.2	<0.18	0.26	0.65
SSRB9-IA-39	12/15/2010	GR	0.43	<0.14	<0.047	<0.25	<0.72	<0.15	<0.22	0.91	<0.18	<0.28
SSRB9-IA-45	12/16/2010	GR	0.84	<0.14	<0.047	1.4	<0.72	<0.15	<0.22	0.48	0.3	0.56
SSRB10-IA-20	12/14/2010	LR	0.53	<0.15	<0.049	0.33	<0.76	<0.15	<0.23	<0.21	3.2	0.59
SSRB10-IA-20-EPA	12/14/2010	LR***	0.27 J,Q2	<0.2 J,Q2	<0.13 J,Q2	0.29 C1,J,Q2	<0.2 U	<0.2 J,Q2,U	<0.3 J,Q2	<0.27 J,Q2,U	2.1 J,Q2	0.29 C1,J,Q2
SSRB10-IA-21	12/14/2010	CS	0.84	<0.15	<0.049	<0.26	<0.76	<0.15	<0.23	<0.21	<0.19	0.56
SSRB10-IA-21-CSEPA	12/14/2010	CS	0.57 J,Q2	<0.33 J,Q2	<0.21 J,Q2	<0.56 J,Q2	<0.33 U	<0.34 J,Q2	<0.5 J,Q2	<0.45 J,Q2	<0.41 J,Q2	0.32 C1,J,Q2
SSRB11-IA-24	12/14/2010	LR***	0.31	<0.1	<0.034	0.19	<0.52	<0.11	<0.16	<0.14	0.83	0.71
SSRB11-IA-24-EPA	12/14/2010	LR	0.21 C1,J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 U	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	0.53 J,Q2	0.3 Q2,C1,J
SSRB11-IA-25	12/14/2010	CS	<0.2	<0.15	<0.048	<0.25	<0.74	<0.15	<0.22	<0.2	0.19	0.58
SSRB11-IA-25-CSEPA	12/14/2010	CS	<0.4 J,Q2	<0.3 J,Q2	<0.19 J,Q2	<0.51 J,Q2	<0.3 C1	<0.3 J,Q2	<0.45 J,Q2	<0.41 J,Q2	<0.37 J,Q2	0.3 Q2,C1,J
SSRB12-IA-26	12/14/2010	LR	0.27	<0.16	<0.05	<0.26	<0.78	<0.16	<0.24	<0.21	5.2	0.51
SSRB12-IA-27	12/14/2010	CS	0.28	<0.15	<0.049	<0.26	<0.76	<0.15	<0.23	<0.21	<0.19	0.51

**Table 1**  
**Data Summary for Residential Indoor Air Sample Results**  
**Former Spectra-Physics Lasers and Former Teledyne Semiconductor Facilities**  
**Mountain View, California**

*(concentrations reported in micrograms per cubic meter)*

Sample ID	Sample Date	Sample Type	TCE	cis-1,2-DCE	VC	PCE	trans-1,2-DCE	1,1-DCA	1,2-DCB	1,1,1-TCA	Chloroform	Freon 113
SSRB13-IA-28	12/14/2010	LR	<b>0.85</b>	<0.16	<0.05	<0.26	<0.78	<0.16	<0.24	<0.21	<b>2.4</b>	<b>0.57</b>
SSRB13-IA-29	12/14/2010	CS	<b>0.56</b>	<0.14	<0.045	<0.24	<0.69	<0.14	<0.21	<0.19	<b>0.26</b>	<b>0.6</b>
SSRB-13-48	09/01/2011	LR	<b>1.5</b>	<b>1.4</b>	<b>0.068</b>	<0.23	<0.68	<0.14	<0.21	<0.19	<b>3.1</b>	<b>0.68</b>
SSRB-13-49	09/01/2011	CS	<b>0.26</b>	<0.14	<0.046	<0.24	<0.71	<0.14	<0.22	<0.20	<b>0.18</b>	<b>0.49</b>
SSRB-13-51	09/01/2011	LR	<b>1.6</b>	<b>1.4</b>	<b>0.07</b>	<0.33	<0.97	<0.20	<0.29	<0.27	<b>3.4</b>	<b>0.66</b>
SSRB14-IA-40-EPA-1	12/14/2010	LR***	<b>0.28 J,Q2</b>	<0.2 J,Q2	<0.13 J,Q2	<b>1.4 J,Q2</b>	<0.2 U	<0.2 J,Q2	<0.3 J,Q2	<0.27 J,Q2	<b>1.3 J,Q2</b>	<b>0.3 C1,J,Q2</b>
SSRB14-IA-40-EPA-2	12/14/2010	LR	<10	<8	<5	<10	<8	<8	<10	<10	<10	<20
SSRB14-IA-41-EPACS	12/14/2010	CS***	<8	<6	<4	<10	<6	<6	<9	<8	<7	<10
NBRB-15-CS-52	7/18/2013	CS	<0.18	<0.13	<0.042	<0.22	<0.66	<0.13	<0.20	<0.18	<b>0.21</b>	<b>0.57</b>
NBRB-15-CS-53	7/18/2013	CS	<b>0.22</b>	<0.13	<0.042	<0.22	<0.65	<0.13	<0.20	<0.18	<b>0.23</b>	<b>0.55</b>
NBRB-15-IA-54	7/18/2013	LR	<b>0.22</b>	<0.14	<0.046	<0.25	<0.72	<0.15	<0.22	<0.20	<b>0.77</b>	<b>0.55</b>
NBRB-15-IA-55	7/18/2013	LR	<b>0.25</b>	<0.14	<0.044	<0.23	<0.68	<0.14	<0.21	<0.19	<b>1.1</b>	<b>0.56</b>
NBRB-15-DUP (duplicate to IA-55)	7/18/2013	LR	<b>0.25</b>	<0.14	<0.046	<0.24	<0.72	<0.15	<0.22	<0.20	<b>1.2</b>	<b>0.56</b>

**Notes:**

- USEPA Regional Screening Levels (RSLs), revised May 2010.
- USEPA RSLs, revised November 2013. Available at: <http://www.epa.gov/region9/superfund/prg/>
- Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs), revised February 2012. Available at: [http://www.atsdr.cdc.gov/mrls/pdfs/atsdr\\_mrls\\_february\\_2012.pdf](http://www.atsdr.cdc.gov/mrls/pdfs/atsdr_mrls_february_2012.pdf)
- ATSDR MRLs, revised July 2013. Available at: <http://www.atsdr.cdc.gov/mrls/mrlist.asp>
- USEPA Interim Indoor Air Short-Term Response Action Levels for Residential Buildings. Memo from USEPA to Stephen Hill (RWQCB). "EPA Region 9 Guidelines and Supplemental Information Needed for Vapor Intrusion Evaluations at the South Bay National Priorities List (NPL) Sites". December 3.

Bold values represent detected concentrations.

Units in micrograms per cubic meter (µg/m³) at 25° Celsius and 1 atmosphere

\* = Trans-1,2-DCE MRLs and RSLs are used for cis-1,2-DCE

\*\* = Sample canister had a high vacuum at the time of sample collection that resulted in a large dilution factor

\*\*\* = Sample considered a grab sample due to low vacuum measured at the time of sample collection

1,1-DCA = 1,1-dichloroethane

1,2-DCB = 1,2-dichlorobenzene

1,1,1-TCA = 1,1,1-trichloroethane

BR = Bathroom

C1 = The reported concentration for this analyte is below the quantitation limit

cis-1,2-DCE = cis-1,2-dichloroethene

CS = crawl space sample location

GR = Garage

J = The reported result for this analyte should be considered an estimated value

LR = living area sample location

NA = not available

OA = outdoor air sample location

PCE = tetrachloroethene

Q2 = The laboratory control standard associated with this sample did not meet recovery criteria for this analyte

RE2 = Result is from a sample re-analysis

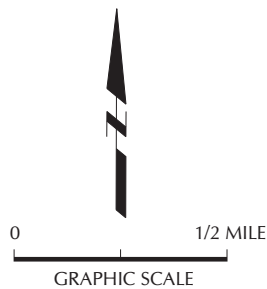
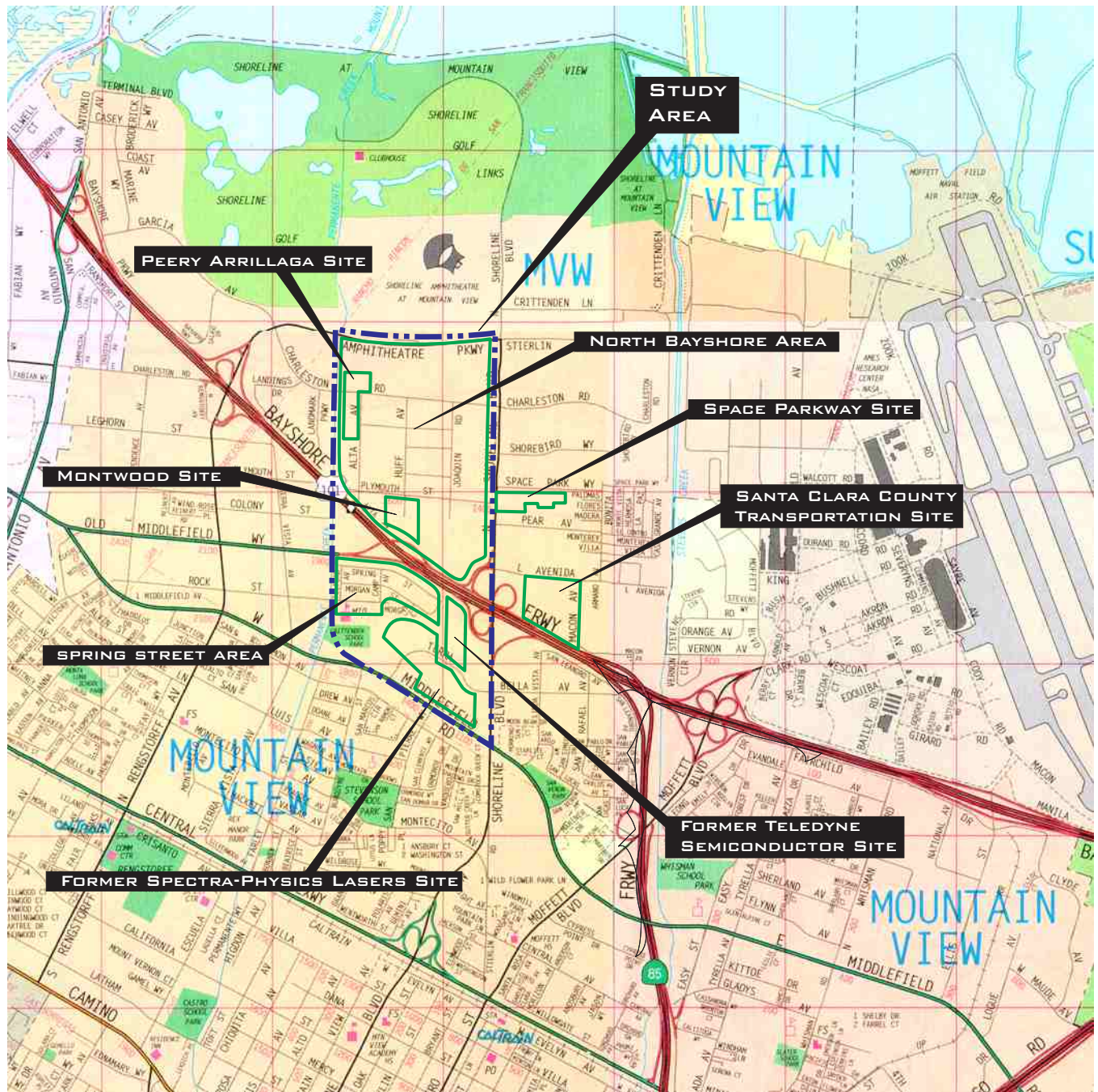
TCE = trichloroethene

trans-1,2-DCE = trans-1,2-dichloroethene

USEPA = United States Environmental Protection Agency

VC = vinyl chloride

## Figures



FORMER SPECTRA-PHYSICS LASERS AND  
FORMER TELEDYNE SEMICONDUCTOR FACILITIES  
MOUNTAIN VIEW, CALIFORNIA

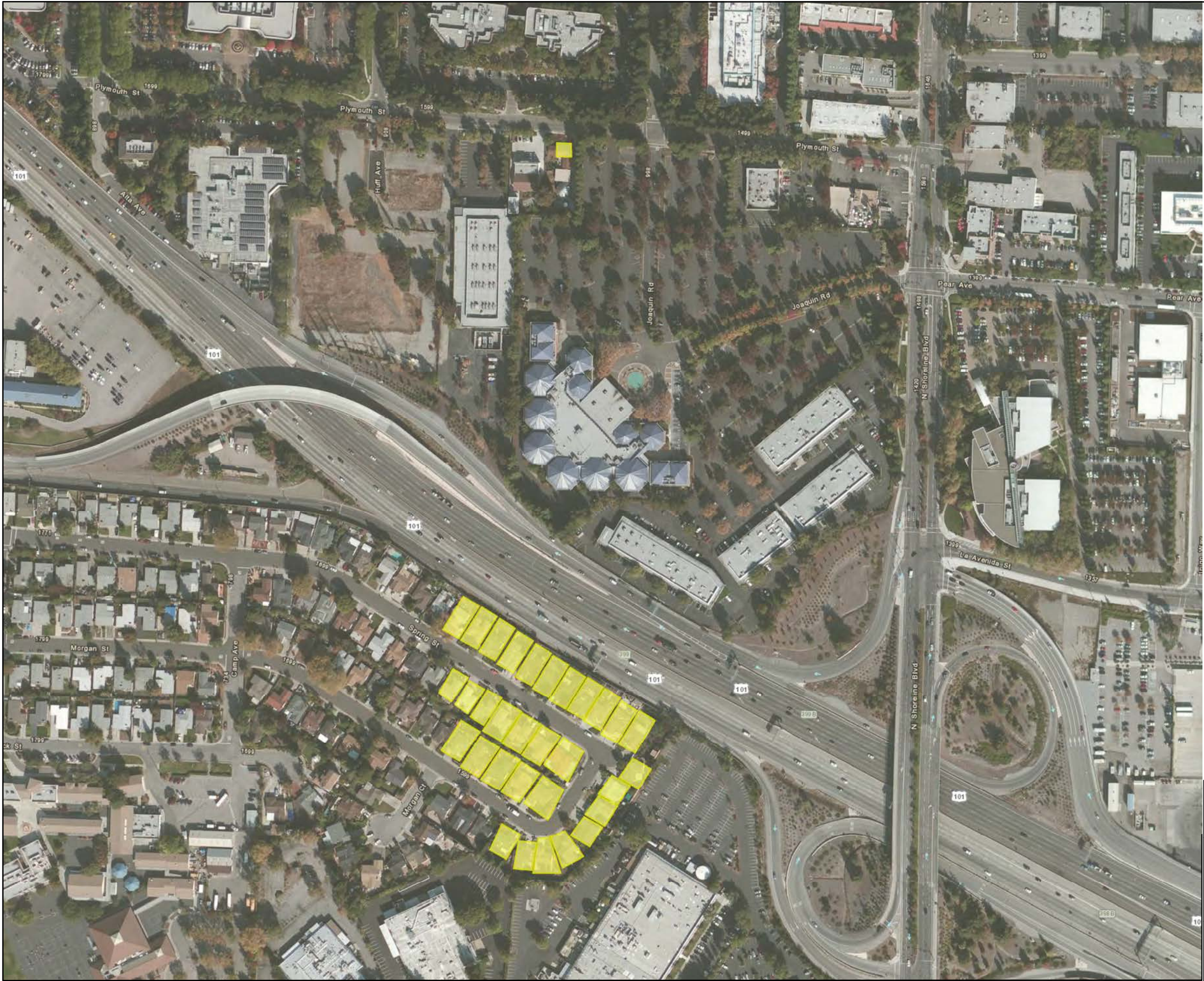
## SITE VICINITY MAP AND PROPERTY LOCATIONS



FIGURE  
**1**

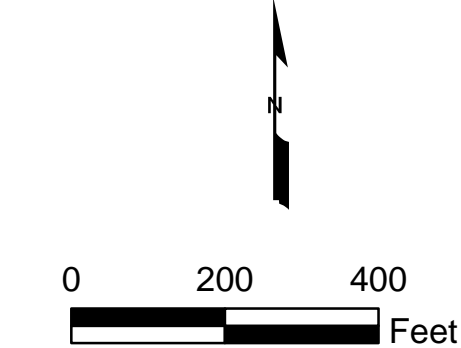
SOURCE: THOMAS BROS GUIDE





**Legend**

RESIDENTIAL BUILDING INCLUDED IN STUDY AREA



FORMER SPECTRA-PHYSICS LASERS,  
FORMER TELEDYNE SEMICONDUCTOR

**SITE MAP SHOWING  
RESIDENTIAL BUILDINGS INCLUDED  
IN THE WORK PLAN ADDENDUM**





**LEGEND**

● MONITORING WELL

**WELL IDENTIFICATION**

**TCE CONCENTRATION RESULTS (mg/L)**

**SAMPLE DATE**

TCE TRICHLOROETHENE  
< CONCENTRATION NOT DETECTED  
ABOVE LABORATORY DETECTION LIMIT  
ND NON DETECT  
ERD ENHANCED REDUCTIVE  
DECHLORINATION (2011-2014)  
mg/L MILLIGRAMS PER LITER  
> GREATER THAN  
= EQUAL TO

**CONTOUR CONCENTRATION VALUES**

> OR = 5.0 mg/L

> OR = 0.500 mg/L

> OR = 0.050 mg/L

> OR = 0.005 mg/L

N  
W E  
S

0 250 500 Feet

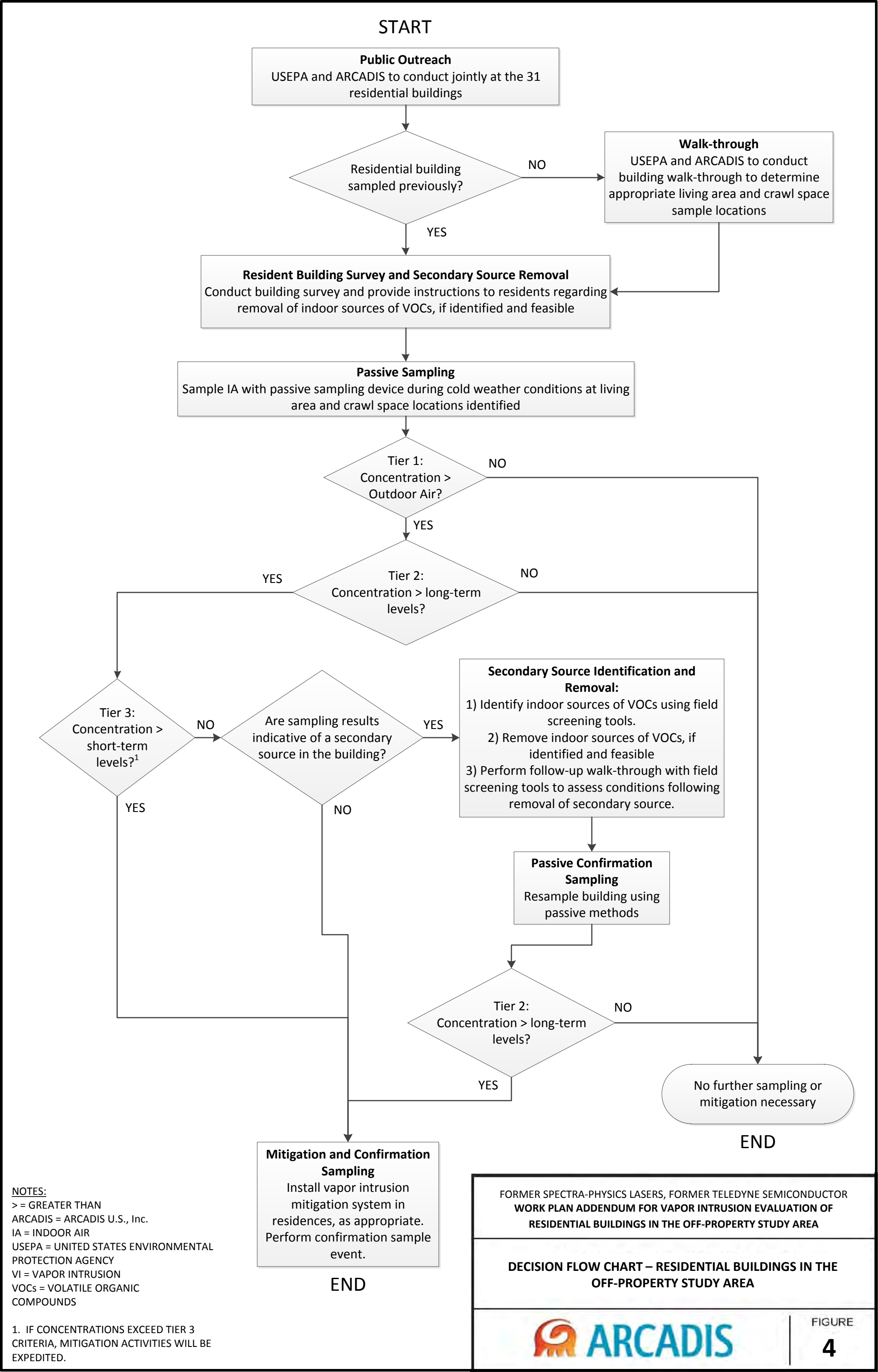
FORMER SPECTRA-PHYSICS AND  
FORMER TELEDYNE SEMICONDUCTOR FACILITIES  
MOUNTAIN VIEW, CALIFORNIA

**PRE-ERD AND POST-ERD  
COMPARISON OF TCE DISTRIBUTION  
IN SHALLOW GROUNDWATER**

**ARCADIS**

**FIGURE 3**





**Attachment A**

DTSC Building Survey Form

## APPENDIX L - BUILDING SURVEY FORM

Preparer's Name: \_\_\_\_\_ Date/Time Prepared: \_\_\_\_\_  
Affiliation: \_\_\_\_\_ Phone Number: \_\_\_\_\_

### Occupant Information

Occupant Name: \_\_\_\_\_ Interviewed: ☐ Yes ☐ No  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

### Owner/Landlord Information (Check if same as occupant ☐)

Occupant Name: \_\_\_\_\_ Interviewed: ☐ Yes ☐ No  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

### Building Type (Check appropriate boxes)

☐ Residential ☐ Residential Duplex ☐ Apartment Building ☐ Mobile Home ☐ Commercial (office)  
☐ Commercial (warehouse) ☐ Industrial ☐ Strip Mall ☐ Split Level ☐ Church ☐ School

### Building Characteristics

Approximate Building Age (years): \_\_\_\_\_ Number of Stories: \_\_\_\_\_  
Approximate Building Area (square feet): \_\_\_\_\_ Number of Elevators: \_\_\_\_\_

### Foundation Type (Check appropriate boxes)

☐ Slab-on-Grade ☐ Crawl Space ☐ Basement

### Basement Characteristics (Check appropriate boxes)

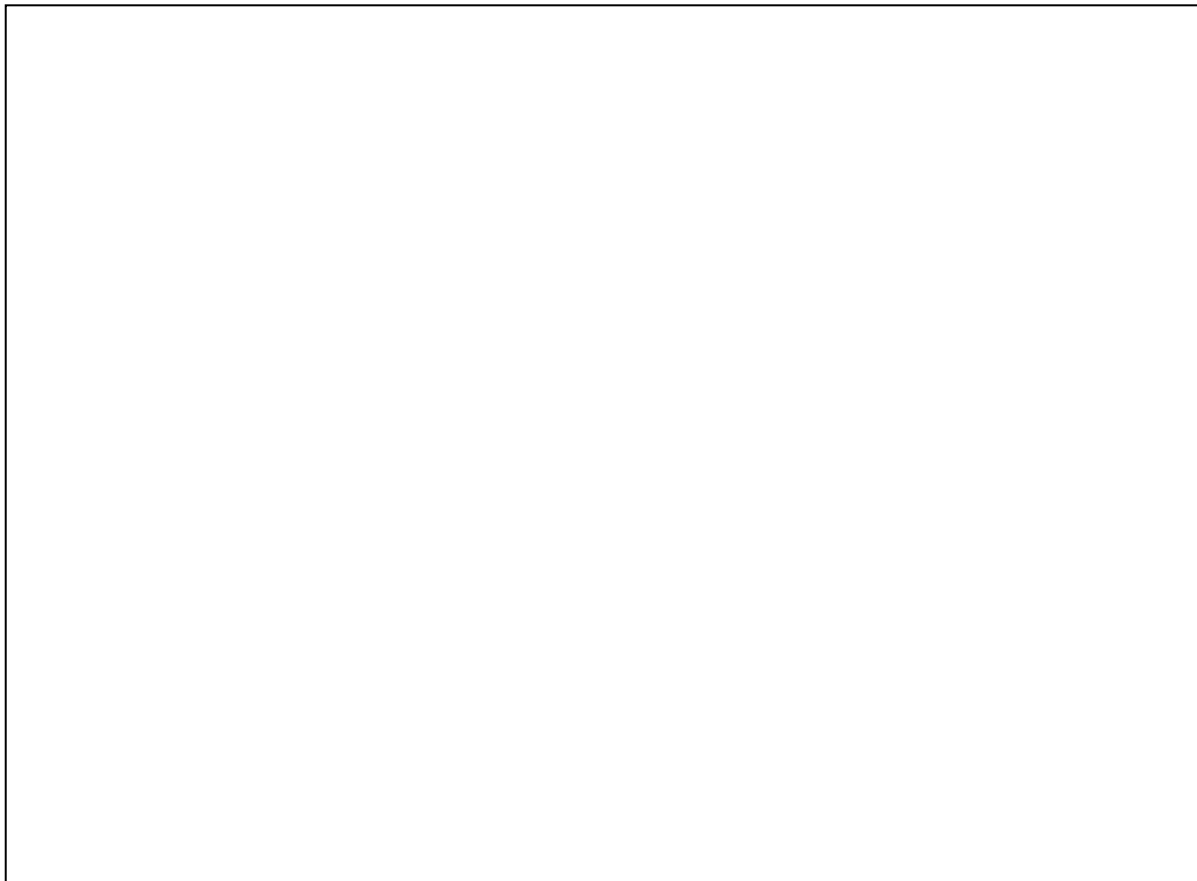
☐ Dirt Floor ☐ Sealed ☐ Wet Surfaces ☐ Sump Pump ☐ Concrete Cracks ☐ Floor Drains

### Factors Influencing Indoor Air Quality

Is there an attached garage?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there smoking in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there new carpet or furniture?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Have clothes or drapes been recently dry cleaned?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has painting or staining been done with the last six months?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has the building been recently remodeled?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Has the building ever had a fire?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a hobby or craft area in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Is gun cleaner stored in the building?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a fuel oil tank on the property?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a septic tank on the property?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has the building been fumigated or sprayed for pests recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____
Do any building occupants use solvents at work?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe: _____

## Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.



## Primary Type of Energy Used (Check appropriate boxes)

☐ Natural Gas   ☐ Fuel Oil   ☐ Propane   ☐ Electricity   ☐ Wood   ☐ Kerosene

## Meteorological Conditions

Describe the general weather conditions during the indoor air sampling event.

## General Comments

Provide any other information that may be of importance in understanding the indoor air quality of this building.

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## APPENDIX M – BUILDING SCREENING FORM

Occupant of Building \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Field Investigator \_\_\_\_\_ Date \_\_\_\_\_

Field Instrument Reading	Measurement Location (Ambient Air, Foundation Opening, or Consumer Product)	If Consumer Product, Potential Volatile Ingredients

Comments:

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**Attachment 2**


Revised Figure 2 –  
Site Plan






**Legend**

 RESIDENTIAL BUILDING INCLUDED IN STUDY AREA

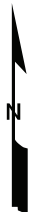
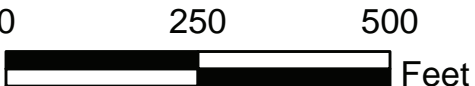
 NOVEMBER 2009 TCE ISOCONCENTRATION (AS PRESENTED IN THE 2010 WORK PLAN (0.050 MG/L))

 NOVEMBER 2013 TCE ISOCONCENTRATION<sup>2</sup> (0.050 MG/L)

**NOTE:**

1. ARCADIS 2010. WORK PLAN TO EVALUATE POTENTIAL VAPOR INTRUSION IN THE OFF-PROPERTY STUDY AREA AND AT 1250 WEST MIDDLEFIELD ROAD TELEDYNE SEMICONDUCTOR AND SPECTRA-PHYSICS LASER, INC., SITES MOUNTAIN VIEW, CALIFORNIA. SEPTEMBER 24.

2. ARCADIS 2014. WORK PLAN ADDENDUM FOR VAPOR INTRUSION EVALUATION OF RESIDENTIAL BUILDINGS IN THE OFF-PROPERTY STUDY AREA, 1300 TERRA BELLA AVENUE AND 1250 MIDDLEFIELD ROAD, MOUNTAIN VIEW, CALIFORNIA. JANUARY 8.

FORMER SPECTRA-PHYSICS LASERS,  
FORMER TELEDYNE SEMICONDUCTOR

**SITE MAP SHOWING  
RESIDENTIAL BUILDINGS INCLUDED  
IN THE WORK PLAN ADDENDUM**




FIGURE  
**2-REV**